



**Chandler • Arizona**  
*Where Values Make The Difference*

## **Civil Engineering Reclaimed Water Notes**

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1. RECLAIMED WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH MAG STANDARD SPECIFICATION SECTION 616 EXCEPT AS MODIFIED BY THESE NOTES.
2. THE MINIMUM DEPTH OF COVER WITHIN THE RIGHT-OF-WAY OF ARTERIAL STREETS SHALL BE 7', AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. PIPE SEPARATION ALSO SHALL CONFORM TO ARIZONA RULE R18-9-602, PIPELINE CONVEYANCES OF RECLAIMED WATER.
4. A REDUCED PRESSURE BACKFLOW DEVICE SHALL BE INSTALLED, AS PART OF THE ORIGINAL SYSTEM, ON A RECLAIMED WATER SYSTEM THAT WILL USE POTABLE WATER AS AN INITIAL SOURCE AND WILL USE RECLAIMED WATER AS A SOURCE LATER. ON SUCH A SYSTEM, CONCURRENT CONNECTIONS SHALL NOT BE MADE AT ANY TIME TO BOTH POTABLE WATER AND RECLAIMED WATER SYSTEMS, REGARDLESS WHETHER ONE OR BOTH SYSTEMS ARE DEVOID OF SUPPLY.
5. RECLAIMED WATER PIPE GREATER THAN OR EQUAL TO 4" IN DIAMETER SHALL BE PRESSURE-RATED POLYVINYL CHLORIDE (PVC) PLASTIC PIPE MEETING THE REQUIREMENTS OF AWWA C900 FOR 4" THROUGH 12" PIPE AND AWWA C905 FOR 14" THROUGH 48" PIPE. C900 PIPE SHALL BE RATED FOR A MINIMUM WORKING PRESSURE OF 150 PSI. C905 PIPE SHALL BE RATED FOR A MINIMUM WORKING PRESSURE OF 235 PSI. DUCTILE IRON PIPE MAY BE USED PROVIDED THAT IT MEETS THE REQUIREMENTS OF DUCTILE IRON PIPE FOR POTABLE WATER. DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY ENCASEMENT IN A POLYETHYLENE PROTECTIVE WRAPPING (POLYWRAP).
6. RECLAIMED WATER PIPE LESS THAN 4" IN DIAMETER SHALL BE PVC PIPE RATED FOR A MINIMUM WORKING PRESSURE OF 200 PSI AND SHALL MEET THE REQUIREMENTS OF ASTM D2241 OR ASTM D1785.
7. PIPE SLEEVES SHALL BE PIPE MEETING THE REQUIREMENTS ABOVE AND SHALL BE TWO (2) NOMINAL SIZES LARGER THAN THE CONVEYANCE PIPE.
8. PRIVATE RECLAIMED WATER LINES SHALL BE INSTALLED IN SLEEVES WHERE THEY CROSS PUBLIC OR PRIVATE RIGHT-OF-WAY.

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9. FITTINGS FOR RECLAIMED WATER PIPE GREATER THAN OR EQUAL TO 4" IN DIAMETER SHALL BE DUCTILE IRON AND SHALL CONFORM TO AWWA C110 OR C153 FOR A MINIMUM WORKING PRESSURE OF 250 PSI. FITTINGS SHALL HAVE A CEMENT-MORTAR LINING IN ACCORDANCE WITH AWWA C104. THE EXTERIOR OF FITTINGS SHALL BE COATED IN ACCORDANCE WITH AWWA C110. FITTINGS THAT REQUIRE TRANSITION GASKETS TO IRON PIPE SIZE (IPS) SHALL BE FURNISHED ONLY IN 6" THROUGH 8" DIAMETERS. DUCTILE IRON FITTINGS SHALL BE PROTECTED FROM CORROSION BY ENCASEMENT IN A POLYETHYLENE PROTECTIVE WRAPPING (POLYWRAP).
10. PIPE, INCLUDING PIPE SLEEVES, SHALL BE INTEGRALLY COLORED PURPLE AND THE PIPE SHALL BEAR THE MESSAGE "CAUTION: RECLAIMED WATER, DO NOT DRINK" AS PART OF EACH SET OF PIPE IDENTIFICATION MARKINGS. UNLESS NOTED OTHERWISE, PIPE THAT CANNOT BE PURPLE IN COLOR SHALL BE MARKED PER MAG STANDARD SPECIFICATION SECTION 616 WITH THE ABOVE MESSAGE. DUCTILE IRON PIPE MAY BE MARKED BY WRAPPING WITH PURPLE POLYETHYLENE ENCASEMENT (POLYWRAP) MEETING THE REQUIREMENTS OF THE MAG STANDARD SPECIFICATIONS. THE POLYWRAP SHALL INCLUDE THE ABOVE MESSAGE.
11. RECLAIMED WATER IRRIGATION SYSTEM SPRINKLER HEADS, VALVE BOXES AND COVERS, AND FLOW CONTROL HANDLES ON VALVES SHALL BE PURPLE.
12. PVC PIPE SHALL NOT BE EXPOSED TO DIRECT ULTRAVIOLET RADIATION (SUNLIGHT) FOR MORE THAN 30 DAYS, WHETHER THE TIME IS CONTINUOUS OR CUMULATIVE. PVC PIPE SHALL BE PROTECTED FROM DIRECT ULTRAVIOLET RADIATION FOR ANY TIME OF EXPOSURE EXCEEDING 30 DAYS. PVC PIPE THAT HAS BEEN DISCOLORED BY EXPOSURE TO ULTRAVIOLET RADIATION IS UNACCEPTABLE.
13. VALVES 4" THROUGH 24" SHALL BE GATE VALVES UNLESS NOTED OTHERWISE. EACH VALVE SHALL BE FURNISHED WITH A BAR WELDED TO THE OPERATING NUT IN ACCORDANCE WITH CITY OF CHANDLER STANDARD DETAIL C-406, THEREBY REQUIRING A TOOL WITH A KEY SLOT TO EXERCISE THE VALVE. VALVE BOXES AND COVERS SHALL CONFORM TO CITY OF CHANDLER STANDARD DETAIL C-406. A DEBRIS CAP, WHICH CONFORMS TO CITY OF CHANDLER STANDARD DETAIL C-318, SHALL BE INSTALLED IN EACH VALVE BOX.
14. NO VALVE, RISER, BOX OR COVER SHALL BE LOCATED BENEATH OR WITHIN A SIDEWALK OR SIDEWALK RAMP.
15. CITY RECLAIMED WATER VALVES SHALL BE OPERATED BY CITY OF CHANDLER PERSONNEL ONLY.
16. CITY OF CHANDLER WILL FURNISH AND INSTALL 2" AND SMALLER WATER METERS WITH PREVAILING COSTS PAID BY THE DEVELOPER.
17. METER BOXES AND COVERS SHALL BE SUPPLIED BY THE DEVELOPER AND SHALL BE INSTALLED BY THE CONTRACTOR FACING AWAY FROM THE STREET. METER BOXES FOR METERS 2" AND SMALLER SHALL BE CONCRETE AND SHALL CONFORM TO MAG STANDARD DETAIL 320 OR SHALL BE POLYMER CONCRETE AND CONFORM TO CITY OF CHANDLER STANDARD DETAIL C-301. THE INSIDE OF EACH METER BOX SHALL BE

PAINTED PURPLE. METER BOX COVERS SHALL BE POLYMER CONCRETE AND SHALL CONFORM TO CITY OF CHANDLER STANDARD DETAIL C-301. METER BOX COVERS SHALL BE CAST WITH THE WORDS "RECLAIMED WATER" IN THE OUTSIDE SURFACE OR HAVE TAGS WITH THE WORDS "RECLAIMED WATER" FIRMLY ATTACHED TO THE OUTSIDE SURFACE. LETTERING SIZE AND FORMAT SHALL BE SIMILAR TO THE LETTERING IN MAG STANDARD DETAIL 310. TAGS SHALL OTHERWISE MEET THE REQUIREMENTS FOR RECLAIMED WATER VALVE TAGS.

18. WATER METERS 3" AND LARGER, METER VAULTS AND COVERS SHALL BE SUPPLIED BY THE DEVELOPER AND SHALL BE INSTALLED BY THE CONTRACTOR. WATER METERS SHALL BE IN ACCORDANCE WITH CITY OF CHANDLER STANDARD DETAIL C-404 AND C-405, APPROVED BY THE CITY OF CHANDLER, AND SHALL BE EQUIPPED WITH AN "ITRON ERT SIGNAL UNIT". WHERE THE METER IS INSTALLED BELOW GROUND, INSTALLATION SHALL CONFORM TO CITY OF CHANDLER STANDARD DETAIL C-316. WHERE THE METER IS INSTALLED ABOVE GROUND, THE REMOTE-READ "ITRON ERT SIGNAL UNIT" SHALL BE INSTALLED IN A WATER METER BOX IN ACCORDANCE WITH CITY OF CHANDLER STANDARD DETAIL C-301. THE INSIDE OF EACH METER VAULT AND METER BOX SHALL BE PAINTED PURPLE. METER VAULT AND METER BOX COVERS SHALL INCLUDE THE WORDS "RECLAIMED WATER" AS REQUIRED FOR METER BOX COVERS ABOVE FOR METERS 2" AND SMALLER. THE CITY OF CHANDLER WATER DISTRIBUTION DIVISION SHALL BE NOTIFIED 24 HOURS BEFORE INSTALLATION AT (480) 782-3700.
19. WARNING SIGNS: AREAS IRRIGATED WITH RECLAIMED WATER SHALL BE IDENTIFIED BY SURFACE MOUNTED SIGNS, AT LEAST 12" WIDE BY 9" HIGH, WITH THE FOLLOWING MESSAGE IN BOLD, WHITE LETTERS ON A PURPLE BACKGROUND. THE SIGN LAYOUT SHALL BE AS FOLLOWS: FIRST LINE, "IRRIGATION"; SECOND LINE, "RECYCLED WATER"; THIRD LINE, "DO NOT DRINK"; FOURTH LINE, DISPLAY THE INTERNATIONAL "DO NOT DRINK" SYMBOL AND FIFTH LINE, "NO BEBER". SIGNS SHALL BE FABRICATED FROM FLAT SHEET ALUMINUM. SIGNS SHALL BE AS MANUFACTURED BY CHRISTY SIGNS OR SHALL BE AN APPROVED EQUAL. SIGNS SHALL BE PROMINENTLY LOCATED AT ALL SUBDIVISION AND PARK ENTRANCES, IN ALL AREAS SUBJECT TO IRRIGATION, AND AT ALL LAKES AND WATER FEATURES. SIGNS SHALL BE POSTED AT EACH PEDESTRIAN ENTRANCE AND ACCESS POINT TO AN AREA WHERE RECLAIMED WATER IS USED. SIGNS SHALL BE SPACED AT A MAXIMUM INTERVAL OF 100 YARDS, EXCEPT FOR ROADWAY MEDIANS, WHERE SIGNS MAY BE SPACED AT A MAXIMUM INTERVAL OF 300 YARDS.
20. RECLAIMED WATER LINES GREATER THAN OR EQUAL TO 4" IN DIAMETER SHALL BE TESTED IN ACCORDANCE WITH THE SAME REQUIREMENTS AS POTABLE WATER LINES. RECLAIMED WATER LINES LESS THAN 4" IN DIAMETER ARE NOT REQUIRED TO BE TESTED. THE TESTING REQUIREMENTS OF CITY OF CHANDLER STANDARD SPECIFICATION NO. 10 SHALL APPLY TO RECLAIMED WATER LINES GREATER THAN OR EQUAL TO 4" IN DIAMETER. ON A RECLAIMED WATER SYSTEM THAT WILL NOT USE POTABLE WATER AS AN INITIAL SOURCE, RECLAIMED WATER MAY BE USED IN LIEU OF POTABLE WATER TO FILL RECLAIMED WATER PIPE BEING TESTED. DISINFECTION OF THE RECLAIMED WATER MAIN SHALL NOT BE REQUIRED.
21. RECLAIMED WATER LINES LARGER THAN TWO (2) INCHES IN DIAMETER SHALL HAVE TRACER WIRE INSTALLED PER CITY OF CHANDLER SPECIFICATON NO. 11.